



COR - 0737

NRO REVIEW COMPLETED

20 January 1960

MEMORANDUM FOR THE RECORD

SUBJECT : Trip Report on Recent Visit to West Coast

I spent January 5th at BMD and January 6th and 7th at Lockheed covering the following subjects which are discussed topically:

1. Status of Discoverer Program:

a. Colonel Battle advised that BMD had firm instructions to proceed with the full 29 shots and to bring back to Air Force Headquarters the funding requirements. As things now stand, these are reduced from the [] requirement, estimated in early December, to []. The cut-back has been accomplished by eliminating among other things the Annette Station, a large quantity of spare parts in the vehicle area and by negotiating Lockheed downward to the tune of []. Funds available appear to be [] and the difference of [] is to be made up by eliminating certain operational aspects of the SAMOS program. SAMOS is the only source of such savings in that MIDAS has already been funded at no more than an R and D level. This program will be presented to Air Force Headquarters sometime late in January.

b. I suggested to Col. Battle that we should coordinate black and white funding requirements, since with respect to the entire CORONA Prime Program, and most of the ARGON Program, the funds were to be derived from one common pot. Therefore, it would seem sensible to advise him of potential overruns and extra costs on the black side, and perhaps also to clear their factory representative at Palo Alto -- Sunnyvale, so that the latter could at least insure that the program was not being double charged. We discussed this with [] who suggested that a [] of the Contracting Office be the individual to be cleared. This is being discussed with Security and Contracts.

2. Technical Status of Next Flight:

a. Col. Battle said that the firing date of the next flight had been slipped from the 20th to 26th in order to relieve pressure on the necessary intervening events and on account of vehicle difficulties. He expects a 500-ft. per second margin of safety to exist on the issue of orbiting successfully and Lockheed, in verifying this figure, refined it further to a margin of 100 feet in obtaining predicted orbit. Nominal launching will be on a 172° Azimuth toward a perigee of 120 miles and an apogee of 450 miles with eccentricity of .036. Payload will be 10 lbs. of which approximately 7 will be operational. The vehicle will carry a steadily burning light of intensity equal to

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a. 7th or 8th magnitude star which can be tracked with a Baker-Hunn camera. Also carried will be a transit type beacon from which tracking data can be obtained through the Doppler effect at the three APL stations located in the U.S.

b. In addition, extra telemetry of reentry information will be transmitted through antenna located inside the shell which transmits through a window (thus avoiding charring during reentry). There will be an improved 30-hour beacon after parachute deployment.

c. A major change in the payload area involves payload operation on the pad prior to launching and again just after cut-off of the second stage. This should provide a relation between the physical stresses of ascent and camera failure, if such exists.

d. I attended the BEMCO Chamber test of the payload planned for the next flight. Although no logical reason was ever given me as to why, the fact is that the film load consisted of a hand spliced piece of leader, followed by a piece of operational film, followed by a piece of leader, followed by factory packed film, made up the test load. The camera was operated for some 50 cycles prior to vibration, and thereafter for another 75 cycles. When the camera was brought up to altitude, it failed after 27 cycles. It was then brought back to [redacted] and disassembled when a rap-around was discovered on the input metering roller. The evidence was that the rap-around had occurred prior to insertion in the chamber. The first reaction of the group, lasting a couple of hours, was that the looseness of the hand packed leader and film had exceeded the capacity of the dancer roller which is located just behind the supply spool and that this had caused the rap-around. After considerable discussion, it was agreed that the sequence should be repeated using only factory wrapped film and leader; however, just as I was leaving the area, [redacted] told me that an analysis of the instrumentation indicated that the source of the rap-around was film which came from someplace on the exit side and that all previous bets were off. In any case, it was agreed that a repetition of the test should be made and [redacted] called me on Sunday, January 10th, to say that the chamber run had been completely satisfactory.

e. As part of the contractual discussion concerning the 1959 overrun, I was given a long list of tests which ITIK and Fairchild have made and which formed the basis for the overrun. I gave these to [redacted] with a request that he let me know the extent to which we have received the reports on such tests.

3. Cover Shots:

a. I discovered that BMD had instructed Lockheed to fire the GRD

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cover shot in mid-February. I also discovered that camera No. 5 was being refurbished as an operational camera. If so, the GND shot would be the only cover shot.

b. Col. Worthman advised that the bio-packs would be ready for use in late February and early March.

c. I advised all involved that we would immediately look into the question as to whether we wished one or two cover shots and which kind. This decision would form the basis for going ahead with the GND shot and/or refurbishing No. 5 camera. In addition to these, there are also available a diagnostic payload and a so-called nuclear power shot.

4. The CORONA Prime Program:

a. I brought back the Lockheed reaction to the ITK proposal for camera re-design. Lockheed suggests essentially that ITK be authorized to go ahead for a 60-day period at the end of which time a much more realistic appraisal can be made as to:

- (1) Whether ITK's technical conclusions are valid, and
- (2) Whether ITK can meet the time schedule.

Colonel Battle appeared to agree with Lockheed but withheld final position for a week.

b. In the General Electric area, Lockheed now estimates that the [redacted] of G.E. estimated costs is well founded and probably firm. I asked for and obtained a written statement from Lockheed as to the main items that make up the extra costs (see attachment). Over and above these, Lockheed pointed out that the extra costs came about by the virtue of the fact that in the CORONA Prime Program there can be no allocation of costs from black or white; therefore, the black program must carry [redacted] drop tests and a complete requalification of the system. G.E. is leaning over backward at this stage of the game to cut the so-called "High Risk" program down from their standpoint.

c. It developed that G.E. is planning positive heaters throughout the rest of the series.

d. I discovered that the AGENA deliveries had slipped. Apparently, there are two modified AGENAs coming along. The first of these, No. 8081, has extra tankage but does not have sufficient capacity to carry the CORONA Program beyond three days, and is marginal for ARGON. Four of these are to be delivered prior to August 1st. No. 8096, which has extra tankage and start re-start and which can carry ARGON, is not expected to be delivered until after August 1st.

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5. ANGON:

a. It is obvious from the foregoing that according to present information ANGON shots cannot take place prior to August 1st. Colonel Murphy told me that on the assumption of a very minimum 5° sun angle, the cut-off date for 50° to 80° North Latitude is September 21st. This assumes 172° Azimuth. If we go to 180° Azimuth, the cut-off date becomes 4 October. Clearly the ANGON situation becomes precarious without June or July shots and its vulnerability is even greater if we consider denying August and September to the Prime.

b. Colonel Murphy is looking up an operational plan for ANGON.

6. []

I interviewed [] in Colonel Worthman's office on Jan. 5th. At that time, he was briefed on CORONA by Colonel Worthman and arrangements are initiated to have him brought in for interview at the end of the week.

7. Eastman Kodak:

At Sunnyvale, [] indicated that Eastman Kodak was unhappy about the program management in the sense that it is:

(1) They were not being permitted a role of real participation. Particularly in the area of quality control.

(2) Eastman was not given enough prior notice of future requirements e.g. polyester film. [] suggested that arrangements were needed under which Lockheed could levy requirements directly on Eastman. He had apparently talked this over with [] and he referred to a conversation which [] had had with Mr. Bissell. I promised to look into the problem.

8. Improved Facilities to Replace the L Bldg. Facilities at Vandenburg:

Apparently BMD and Lockheed have agreed that the "L" Bldg. cannot be fixed up to accommodate the recommendations made by the [] Investigating Committee. The alternatives are to take area from the new M.A.B. Building in process of construction or to build a new separate building for this sub-system. Present thinking is tending toward the latter alternative and a decision is expected within a week. If a new building is constructed, it will cost BMD [] and not be ready until May at the earliest.

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9. Conversation with Mr. Sheppard:

Mr. Sheppard made quite a point of giving me his views on []
These included the following points:

(1) There is no leadership at [] at present.

(2) [] is a partial answer and it is significant that he
has good rapport with Colonel Giller. Mr. Bissell has asked
Mr. Sheppard to be available in the future for help in
solving organizational and personnel problems of [] Mr.
Sheppard has cleared this role with Mr. Leghorn, his new
boss, and will be available.

SIGNED

[]
Chief, Development Branch
DPD-DD/P

Attachment:

Statement from Lockheed
concerning GE subcontracts

Distribution:

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Copy 1 - ~~DD/P~~ w/att.
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